4.2. Accountability and Ownership

4.2.1 Quality Plans: Proactive versus Reactive

Quality planning should be performed in conjunction with other planning processes. To plan for quality, the team identifies the quality requirements and standards for the deliverables and documents how the project will demonstrate compliance.

The items to review to assist in the identification of quality requirements include, but are not limited to, the following:

- Project charter or scope statement describing the deliverables and acceptance criteria
- Work breakdown structure (WBS) identifying each deliverable
- Cost or budget outlining constraints to providing the deliverables
- Schedule highlighting the timeframe to deliver the project
- Risk register identifying information and threats to successful project completion
- Outside factors, including regulations or operating conditions, impacting the project
- Organizational process assets, including quality policies, supplier management programs, and lessons learned, assisting the project

As part of identifying the quality requirements, the team is to be aware of the benefits of meeting quality requirements, including less rework, higher productivity, lower costs, and increased stakeholder satisfaction. The tradeoff to delivering a quality project is the “cost of quality”, including the costs incurred in preventing nonconformance to requirements, inspecting the deliverables for conformance, and reworking a deliverable to meet requirements.

4.2.2. Quality Assurance (QA) and Quality Control (QC)

QA can be defined as a set of activities designed to ensure that processes are established ensuring the project deliverables comply with relevant quality standards throughout the project lifecycle, including project audits and process checklists. QA is also the process of auditing or assessing the quality requirements and processes during the production of the deliverables to ensure the appropriate quality standards and operational definitions are used.

4.2.2. Quality Assurance (QA) and Quality Control (QC) (continued)

Typically, QA activities are performed during project planning and execution. QA is closely related to QC in that QA processes utilize measurements obtained during QC to adjust or improve processes, ensuring non-conformances are prevented. QA activities may be conducted during the specific project being worked or may be part of an overall company or business unit initiative for continuous improvement.

QA activities can involve, but are not limited to, the following:

- Reviewing performance measures (How is the project performing compared to plan?). Ongoing issues may indicate non-conformance.
- Examining project deliverable status (Are the deliverables acceptable?). Rushed deliverables increase non-conformance.
- Determining schedule progress (What is the schedule status versus plan?). Nonconforming deliverables may be causing rework.
- Evaluating project costs incurred (What is the current actual project cost versus plan?). Nonconforming deliverables incur cost to correct.

Typically, QA activities are performed as part of a self-assessment or audit process and should complement a lessons learned process that includes identifying best practices, opportunity areas, performance gaps, sharing information, and proactively offering assistance in a positive manner to improve.

The results of QA activities can include change requests to either rework specific deliverables or to modify deliverables to meet the quality requirements. Additionally, corrective and preventative actions can be identified to address current issues and to prevent reoccurrence.

QC can be defined as a set of activities designed to evaluate the deliverable to ensure compliance with relevant quality standards throughout the project lifecycle, including inspection and testing. QC is product or service oriented.

4.2.2. Quality Assurance (QA) and Quality Control (QC) (continued)

Performing QC is the process of inspecting and measuring the deliverable against the quality requirements. QC activities are performed throughout the project and involve the measurement of 'planned' versus 'actual' results.

The planned results, or acceptance criteria, are defined during the planning phase of a project. As the deliverables are produced, they are measured with actual results. As long as the actual results are within the tolerance range, or acceptable variance, then the deliverable is in conformance. If the actual results are outside the tolerance limits planned, then the deliverable is in non-conformance and follows a disposition process. The disposition process determines if the deliverable requires reworking, scrapping, or accepting through a change request process.

QC activities can involve, but are not limited to, the following:

- Inspection of project design, both internally and externally created
- Details drawing completeness and accuracy
- Designing input/output (I/O) points
- Bill of material (BOM) completeness and accuracy
- Vendor surveillance or inspection program
- Establishing inspection hold points for critical material
- Ensuring vendor is producing material within design limits
- Inspection of received materials against the design or order upon receipt
- Identifying that the correct part numbers, quantities, and items are delivered
- Implementing a disposition process for non-conforming materials

4.2.2.1. Inspection and Test Plans (ITP) for Identified Activities

ITPs are activity roadmaps with the procedures, skills, and tools needed to perform the sequential tasks, with control points for the inspections and data identification.